

# **Dr. Edward Baker, P.Geo**

## **Geochemist - Data Scientist, Knight Piésold - Vancouver, BC**

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Currently a geochemist working for Knight Piésold in Vancouver. Significant experience with a variety of programming languages and analytical techniques. Looking forward to using geoscience to solve problems that matter.

## **Key Skills**

Geology, Petrology, Python, Fluid geochemistry, GOLDSIM, PHREEQC, PerpleX, Proposal and report writing, Thermodynamic modelling, Kotlin, Julia, SQL, Presenting data/Conferences, Remote-sensing/GIS, TensorFlow/Keras Git, Docker.

## **Recent Projects**

<b>Josemaria Project (ARG)</b>	Water quality modelling, Baseline studies/analysis and reporting, GOLDSIM modelling
<b>Gosselin Mine (CA)</b>	Geochemical acid rock drainage/metal leaching characterisation, Geochemical change modelling for comparison with Côté deposit
<b>Environmental Dashboard (Online)</b>	Designed and wrote code for an environmental analysis dashboard, used by the client to demonstrate environmental compliance to stakeholders, SkLearn and PHREEQC used for live analysis within the dashboard
<b>Hydro Power Model (CA)</b>	Python numerical model for power generation, used to optimise turbine design/choice and determine likely power availability

## **Employment History**

<b>Geochemist – Knight Piésold, Vancouver, BC</b> <b>2023 – Present</b>	Automating data processing and publication; Writing applications and reporting for regulatory filings; Geochemical modelling and analysis – PHREEQC / ASE; <i>ab initio</i> modelling for estimation of crystallographic parameters; Coded and deployed environmental data dashboard using Docker
<b>Postdoctoral Fellow – University of Manchester, UK</b> <b>2021 – 2023</b>	Main project combined experimental geochemistry with numerical modelling, looking at light element behaviour in reducing conditions; Developed and funded independent research which included collaborations with national laboratories and mining companies; Coded Android mobile app to automate calculations required for laboratory work; Trained and mentored research students; Significant experience with a wide range of analytical methods, including mass spectrometry and e-beam techniques; Calibrated new redox proxy for reducing environments using XANES; Machine learning specialisation (Coursera)
<b>PhD Candidate – University of Oxford, UK</b> <b>2016 - 2021</b>	Main project used high-pressure experiments to describe lunar formation and constrain bulk composition; Research scholarship, Planetary Materials Institute, Japan Co-Founded Oxford Society of Economic Geology – Organised and Led field trip to Sweden

## **Education**

<b>University of Oxford</b> <b>2016 - 2021</b>	PhD, Earth Science – Thesis Title: ‘On the Evolution of the Lunar Magma Ocean’
<b>University of Oxford</b> <b>2012 - 2016</b>	Undergraduate Masters – MSci Earth Science - 2:1

## **Courses and Conferences**

Exploration Tech, Vancouver 2024; BC ML/ARD conference, Vancouver 2023, 2024, 2025; iCARD, Halifax 2024; AME Roundup, Vancouver 2024; British planetary science conference, Oxford; Terrestrial planets conference, Cambridge